Testboy®
GmbH, Germany
Stands For Quality
Since 1953

Edition 2014 | 2015

Professional **Measuring and Testing Devices**

www.testboy.de

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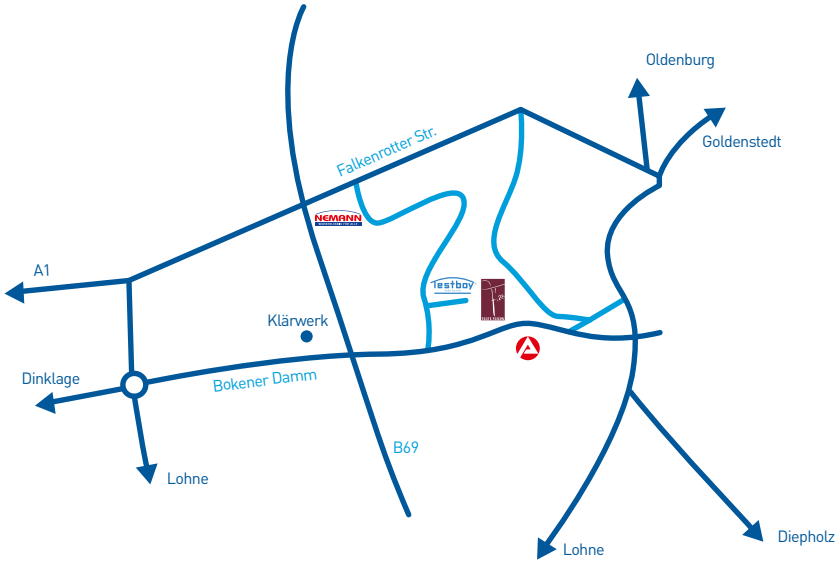

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KLIMA
ZERTIFIKAT

Verwertung ist ein wichtiger Faktor zur Reduzierung von Treibhausgasen und trägt damit entscheidend zum Klimaschutz bei. Die Der Grüne Punkt – Duales System Deutschland GmbH erstellt seit 2001 jährlich die Gesamtumweltbilanz, die diesen Effekt wissenschaftlich belegt und vom IFEU Heidelberg gutachterlich geprüft wird.

Durch die Teilnahme an unserem dualen System für die Verwertung von Verkaufsverpackungen hat die Firma

Testboy GmbH
Beim Alten Flugplatz 3
49377 Vechta

im Jahr **2012** zu einer Einsparung von

5.551 kg CO_2-Äquivalenten

beigetragen. Dies entspricht in etwa dem jährlichen CO_2-Ausstoß, der durch den durchschnittlichen Jahresstromverbrauch von 1.108 Tagen eines Zwei-Personen-Haushaltes verursacht wird.

Haucke Schlüter
Sprecher der Geschäftsleitung

Dr. Markus van Halteren
Geschäftsführer

DerGrünePunkt
Duales System Deutschland GmbH

| 1953 Establishment of Ludwig Mers as an electrical installation company
| 1960 Ludwig Mers GmbH & Co. KG Elektrotechnische Spezialfabrik
| 1993 Takeover of Ludwig Mers GmbH & Co. KG by the present Managing Director
| 1997 Construction of the new company building
| 2000 Expansion of the warehouse in Vechta
| 2005 Change of the company name to Testboy GmbH
| 2005 Construction of an office and warehouse building in Vechta
| 2008 Expansion of the production facilities and warehouse in Vechta
| 2013 60-year company celebration, as well as extension of the stores and offices

Due to the most modern manufacturing technologies, Testboy GmbH has developed into one of the leading manufacturers for robust and professional measurement and testing devices. Our TÜV-/GS tested, user-friendly and long service life products are internationally known under the brand names “Testboy”, “Testavit” and “Schuki”.

In order to always continuously satisfy the requirements of our customers, we permanently continue to develop our range of products taking into consideration the applicable standards and laws. Thereby, we place particular value on the clever combination of as many functions as possible in one device.

Quality and service is top priority at Testboy!
Your Testboy team

General information and safety information

These days, measuring instruments and testers are essential tools when carrying out construction, repair and maintenance tasks involving electrical devices and installations. Modern test instruments should help the user to carry out safety checks, troubleshooting and function tests quickly, safely and reliably. Internationally valid safety standards for the safety of electrical measuring and control equipment are drawn up and ratified by the IEC (International Electrotechnical Commission). This guarantees that tests are carried out according to the same criteria and guidelines all over the world.

Measuring and test instruments are tested as follows:

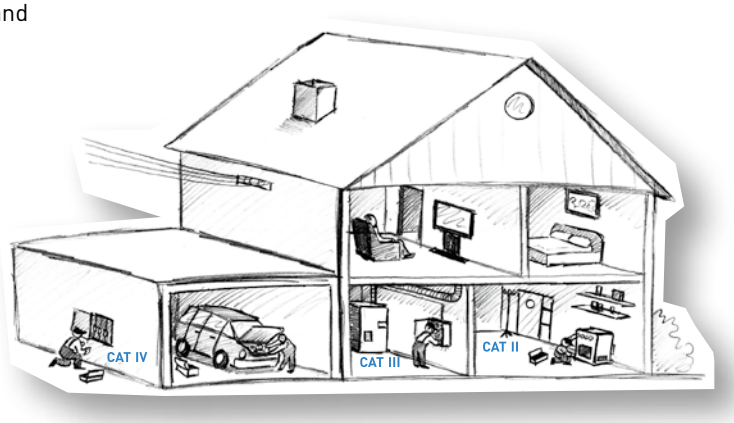
CAT II 600 V | 4000 V Peak surge voltage 12 Ohm source
CAT II 1000 V | 6000 V Peak surge voltage 12 Ohm source
CAT III 600 V | 6000 V Peak surge voltage 2 Ohm source
CAT III 1000 V | 8000 V Peak surge voltage 2 Ohm source
CAT IV 600 V | 8000 V Peak surge voltage 2 Ohm source
CAT IV 1000 V | 12000 V Peak surge voltage 2 Ohm source

Measuring instruments are classed according to 3 different categories that indicate the ranges for which they are approved:

CAT II | Electrical circuits that are directly connected to the mains
Socket outlets and long branch lines
All socket outlets that are more than 10 m away from CAT III
All socket outlets that are more than 20 m away from CAT IV

CAT III | In building installation, e.g. distribution boards, cabling, socket outlets
Supply cables and short supply leads
Distributor boards
Socket outlets for large loads with short leads for supplying electrical energy
Lighting systems for large buildings
Supplies
Busbars

CAT IV | At the source of the low voltage installation, e.g. electricity meters, main terminal, primary overcurrent protective devices
In the open and supply cable feed
Supply cables from the connection point to the building
Connection between the measuring instrument and the connection point
Overhead lines to individual buildings
Underground cables to water pumps



In order to document that the products of a manufacturer comply with IEC/EN 61010-1, the manufacturer can have these products tested by an accredited test body to check if they conform to the requirements laid out in the standard. Once a test has been passed, the manufacturer is entitled to attach the corresponding quality certificate to its product.

As a safety-conscious and responsible manufacturer, Testboy has its products certified by the TÜV-SÜD Produkt Service GmbH.

Continuity testers

Testboy 20 Plus

Continuity tester with external voltage protection

The Testboy 20 Plus is the further development of the most sold continuity tester Testboy 2 in Germany. Due to the non-contact voltage sensor, AC voltages can be detected through the insulation. Defective lamps in chains of Christmas lights, or similar, are indicated accurately within seconds. The current warner installed, warns of a voltage that is a risk to life. The electronics also enable a single-pole phase search.

How you benefit

| Reliable continuity tester
| Non-contact voltage sensor
| High-performance LED torch

SPECIFICATIONS

	Testboy 20 Plus
Continuity testing	Optical 0–20 Ω
	Acoustic 0–250 Ω
Test voltage	4.5 V
Test current	Optical ~10 mA
	Acoustic ~2 mA
External voltage protection	Up to 300 V
Overvoltage category	CAT II 300 V
Integrated LED torch	Yes
Standard	IEC/EN 61010-1 (DIN VDE 0411)
Dimensions	120 × 60 × 30 mm
Weight	90 g (excl. battery)
Power supply	3 × 1.5 V
Colour	Red
Scope of delivery	2 test leads
Accessories (optional)	Crocodile clip
	Carrying case

Voltage tester

Testboy 10, 11, 111

Non-contact voltage tester

The non-contact voltage testers, Testboy 10, 11 and 111, detect live conductors on cable connections, cable drums, sockets, switches, junction boxes etc. Due to capacitive measurement procedures, no current flow is required and interruptions can be indicated quickly and accurately.

How you benefit

| Capacitive measurement procedure
| Alarm signal (Testboy 11, 111)
| LED torches (Testboy 111)
| CAT III 1000 V

SPECIFICATIONS

	Testboy 10	Testboy 11	Testboy 111
Display	Optical	Optical + acoustic	Optical + acoustic
Measuring range	110–1000 V AC		
Overvoltage category	CAT III 1000 V		
Integrated LED torch	No	No	Yes
Standard	IEC/EN 61010-1 (DIN VDE 0411)		
Housing	ABS synthetic material, resistant to breaking by impact		
Dimensions	142 × 26 mm	142 × 26 mm	160 × 25 mm
Weight	22 g	22 g	45 g
Power supply	2 × 1.5 V AAA Micro, LR03		
Colour	Red		
Scope of delivery	Incl. batteries		

Testboy 110, 113, 114

Non-contact voltage tester from 12 V AC

From a voltage of 12 V, the non-contact voltage tester Testboy 110, 113 and 114 detects a live conductor, amongst others, also in the low volt systems. Due to the capacitive measurement procedure, invisible brakes in the cables or a defective lamp in a chain of light can be accurately detected within a few seconds.

How you benefit
| Capacitive measurement procedure
| Measurements from 12 V
| LED torch
| Vibrating indication (Testboy 114)

Product video at
www.testboy.de

SPECIFICATIONS

	Testboy 110	Testboy 113	Testboy 114
Display	Optical	Optical + acoustic	Optical + vibrating
Measuring range	12–1000 V AC		
Overvoltage category	CAT III 1000 V		
Integrated LED torch light	Yes		
Standard	IEC/EN 61010-1 (DIN VDE 0411)		
Housing	ABS synthetic material, resistant to breaking by impact		
Dimensions	160 × 25 mm		
Weight	45 g		
Power supply	2 × 1.5 V AAA Micro, LR03		
Colour	Red		
Scope of delivery	Incl. batteries		

Magnetic field testers

Testboy 15, 130

Non-contact magnetic field testers

The magnetic field testers, Testboy 15 and Testboy 130, are suitable for rapid and precise testing of electro-magnetic switches and valves. Their tip lights up to indicate the presence of permanent, DC or AC magnetic fields. Thereby, they are so sensitive that very often it is not necessary to remove covers or cladding from machines and the function check can be carried out without any setting-up time or stopping the machine.

How you benefit
| Non-contact checking of all magnetic fields
| High-performance LED torch (Testboy 130)

SPECIFICATIONS

	Testboy 15	Testboy 130
Display	Optical, LED	
Measurement ranges	all magnetic fields	
Integrated LED torch light	No	Yes
Standard	IEC/EN 61010-1 (DIN VDE 0411)	
Dimensions	142 × 26 mm	160 × 25 mm
Weight	22 g	45 g
Power supply	2 × 1.5 V Type AAA Micro, LR03	
Colour	Black	
Scope of delivery	incl. batteries	

Two-pole voltage testers

Testboy 40 Plus

Two-pole voltage tester

The Testboy 40 Plus is convincing due to a user-friendly construction and robust housing, which ensures a long operational life. The two-pole voltage tester reliably indicates AC and DC voltages in the range of 6 to 400 V. Furthermore, the electronics enable phase search to the protective earth.

How you benefit
| User-friendly and robust
| Voltage range up to 400 V AC/DC
| Phase search to the protective earth

SPECIFICATIONS

	Testboy 40 Plus
Display	Optical, 8 LEDs
Voltage range	6–400 V AC/DC
Overvoltage category	CAT III 400 V
Polarity	Yes (+,– LED)
Housing	High-quality plastic with rubber handle area
Standard	EN 61243-3:2010
Dimensions	120 × 60 × 30 mm
Weight	100 g
Power supply	Via measurement object
Colour	Red/black
Accessories (optional)	Carrying case

Testboy Profi III LED

Two-pole voltage tester

The new Testboy Profi III LED is the consequential further development of our popular Testboy Profi LED Plus. It convinces due to its user-friendly handling, the robust, safe construction and conforms to all requirements placed on modern voltage testers by a specialist. Due to the high safety classification, CAT IV 1000 V, it is also suitable for measurements on hybrid and electric vehicles, as well as photovoltaic installations.

How you benefit

| Highest safety level CAT IV 1000 V
| Practical one-hand operation
| Robust, safe construction
| Testing without finger contact
| Indication of voltages also possible without battery

SPECIFICATIONS

	Testboy Profi III LED
Display	Optical, LEDs
Ranging	automatic
Voltage range	6 – 1000 V AC 6 – 1400 V DC
Overvoltage category	CAT IV 1000 V
Continuity testing	0 – 50 kΩ optically/acoustically
Phase indication	> 100 V AC
Single-pole phase testing	Yes
Two-pole phase sequence testing	Yes
FI/RCD check test	30 mA at 230 V AC using two buttons
Diode test	Yes
Polarity	Yes (+,– LED)
PELV indication	optical acoustic and vibrating
Measurement position lighting	white LED
Auto-Power-Off	Yes
4-mm test tip adapter	Removable
Protection class	IP 65
Standard	EN 61243-3:2010
Dimensions	300 × 75 × 20 mm
Weight	270 g
Power supply	2 × 1.5 V AAA (indication of voltages also possible without battery)
Colour	Red/black
Scope of delivery	Incl. batteries
Accessories (optional)	Carrying case

Testboy Profi III LCD

Two-pole voltage tester

The Testboy Profi III LCD is the new top model of our proven Profi series. The innovative two-pole voltage tester convinces with a wide performance range and practical one-hand operation. It enables tests without finger contact and, due to the highest safety level, CAT IV 1000 V, is also immediately suitable for measurements on hybrid and electric vehicles, as well as photovoltaic installations.

How you benefit

| Highest safety level CAT IV 1000 V
| Large, illuminated LCD
| Voltage indication up to 1000 V AC and 1400 V DC
| Resistance measurement up to 1999 Ω
| Frequency indication up to 1000 Hz

SPECIFICATIONS

	Testboy Profi III LCD
Display	Optical, LCD
Ranging	Automatic
Voltage range	3 – 1000 V AC (TRMS/RMS) 4 – 1400 V DC
Overvoltage category	CAT IV 1000 V
Resistance testing	1 – 1999 Ω
Continuity testing	0 – 50 Ω with acoustic signal
Frequency indication	0 – 1000 Hz
Phase indication	> 100 V AC
Single-pole phase testing	Yes
Two-pole phase sequence testing	Yes
FI/RCD check test	30 mA at 230 V AC using two buttons
Polarity	Yes (– in the LCD)
PELV indication	Optical acoustic and vibrating
Measurement position lighting	white LED
Data hold function	Voltage and resistance
Auto-Power-Off	Yes
4-mm test tip adapter	Removable
Protection class	IP 65
Standard	EN 61243-3:2010
Dimensions	300 × 75 × 20 mm
Weight	270 g
Power supply	2 × 1.5 V AAA (indication of voltages also possible without battery)
Colour	Red/black
Scope of delivery	Incl. batteries
Accessories (optional)	Carrying case

Multimeters

Testboy 2200

Digital multimeter with cable break detector and LED torch

The variable digital multimeter, Testboy 2200, has all functions for universal operation in the sectors of electrical installation, service and industry. It is easy to operate and the safety of the user is increased due to the integrated LED torch, as well as the non-contact cable break detector installed.

How you benefit
| Universal use
| Non-contact cable break detector
| LED torch

SPECIFICATIONS

	Testboy 2200	
DC voltage	200 mV	±0.5 %, ±3 Digits
	2 V, 20 V, 200 V, 400 V	±0.8 %, ±5 Digits
AC voltage	2 V, 20 V	±1.5 %, ±5 Digits
	200 V, 400 V	±1.5 %, ±5 Digits
DC current	200 µA, 2000 µA	±1.0 %, ±3 Digits
	4 A	±1.2 %, ±5 Digits
AC current	200 µA, 2000 µA	±1.3 %, ±5 Digits
	4 A	±1.5 %, ±8 Digits
Resistance	200 Ω	±1.0 %, ±5 Digits
	2 kΩ, 20 kΩ, 200 kΩ	±1.0 %, ±5 Digits
	2 MΩ	±1.0 %, ±5 Digits
	20 MΩ	±1.8 %, ±5 Digits
Diode test	Test current 0.6 mA	
	Off-load voltage typ. 1.5 V	
Continuity test	Audible signal if resistance <50 Ω	
Non-contact voltage test	100 – 600 V AC	
Maximum input voltage	400 V AC/DC	
Input impedance	> 7.5 MΩ, type 10 MΩ (AC V & DC V)	
AC V bandwidth	50 – 400 Hz	
Fuses	µA/mA range 0.2 A/400 V flink	
	4 A range 4 A/400 V flink	
Operating temperature range	0 – 40 °C (32 – 104 °F)	
Storage temperature range	-10 – 50 °C (14 – 122 °F)	
LED torch	White high-performance LED	
Auto-Power-Off	15 minutes	
Overvoltage category	CAT II 400 V, CAT III 300 V	
Standard	IEC/EN 61010-1, IEC/EN 61010-2-03	
Dimensions	140 × 70 × 35 mm	
Weight	250 g incl. batteries	
Power supply	2 × 1.5 V AAA LR03	
Scope of delivery	Incl. test leads CAT III, system carrying case, batteries	

Testboy 312

Digital multimeter with USB interface

The digital multimeter, Testboy 312, is particularly convincing by its high accuracy in measuring. The extremely effective measuring procedure prevents measuring errors in the case of non-sinusoidal or non-linear curves. In addition, it also has important functions, such as relative, Min/Max and frequency measurement and a USB interface, through which all measurement results can be evaluated using Windows software.

How you benefit:
| Large LCD with bar chart display
| True RMS
| USB interface

SPECIFICATIONS

	Testboy 312	
Display	44 mm large, illuminated LCD, 4 ¾ digit	
DC voltage	50 mV, 500 mV, 50 V, 500 V, 1000 V	± 0.5 %
AC voltage (TRMS)	50 mV, 500 mV, 50 V, 500 V, 1000 V	± 0.5 %
DC current	500 µ, 5 m, 500 m, 5, 10 A	± 0.5 %
AC current	500 µ, 5 m, 500 m, 5, 10 A	± 1.5 %
Resistance	500 Ω, 5 kΩ, 50 kΩ, 500 kΩ, 5 MΩ 50 MΩ	± 0.1 % ± 0.5 %
Duty Cycle	5 Hz – 500 kHz, 1 – 99 %	
Logic frequency	5 Hz – 5 MHz ± 0.006%, Vpp 2 – 5 V rectangular	
Linear frequency	10 Hz – 200 kHz ± 0.006%, Vpp 10 mV sensitive	
Continuity test	With acoustic signal	
Diode test	Forward voltage in mV	
Capacity	Up to 5000 µF	
Ranging	Automatic and manual	
Auto-Power-Off	15 minutes	
Data-Hold function	Yes	
Overvoltage category	CAT III 1000 V	
Standard	IEC/EN 61010-1, IEC/EN 61010-2-033	
Dimensions	200 × 100 × 40 mm	
Weight	600 g	
Colour	Red	
Power supply	6 × 1.5 V AAA LR03	
PC interface	USB interface with Windows software	
Scope of delivery	Incl. operating instructions, test leads, Windows software on CD-ROM, batteries and USB cable	

Testboy 313

Digital multimeter with automatic measuring range protection

The Testboy 313 is particularly safe when using. Due to automatic protection of the measurement area, erroneous operation is impossible. In addition, the digital multimeter has an easily legible LC display with backlighting.

How you benefit
| Automatic measuring range protection
| Large LCD with backlighting
| Temperature measurement

SPECIFICATIONS

	Testboy 313	
Display	37 mm large, illuminated LCD	
DC voltage	200 mV, 2 V, 20 V, 200 V	±0.5 %, ±3 Digits
	600 V	±0.8 %, ±5 Digits
AC voltage	2 V, 20 V, 200 V	±1.0 %, ±5 Digits
	600 V	±1.2 %, ±5 Digits
DC current	2 mA, 20 mA	±1.0 %, ±3 Digits
	200 mA	±1.5 %, ±3 Digits
	10 A	±2.0 %, ±5 Digits
AC current	2 mA, 20 mA,	±1.0 %, ±5 Digits
	200 mA	±1.5 %, ±3 Digits
	10 A	±2.0 %, ±8 Digits
Resistance	200 Ω	±1.0 %, ±5 Digits
	2 kΩ, 20 kΩ, 200 kΩ	±1.0 %, ±5 Digits
	2 MΩ,	±1.0 %, ±5 Digits
	20 MΩ	±1.5 %, ±5 Digits
Diode test	Yes	
Continuity test	Yes	
Temperature measurement	-20 – 1000°C with K-Type sensor	
Maximum input voltage	600 V AC/DC	
Input impedance	> 7.5 MΩ, type 10 MΩ (AC V & DC V)	
AC V bandwidth	50 – 400 Hz	
Frequency measuring range	0 – 20 kHz	
Capacitance measuring range	Up to 20 µF	
Fuses	200 mA (self-resetting)	
	10 A/1000 V (flink)	
Operating temperature range	0 – 40 °C (32 – 104 °F)	
Storage temperature range	-10 – 50 °C (14 – 122 °F)	
Overvoltage category	CAT III 600 V	
Standard	IEC/EN 61010-1, IEC/EN 61010-2-033	
Dimensions	200 × 89 × 38 mm	
Weight	380 g incl. batteries	
Power supply	1 × 9 V 6LR61	
Scope of delivery	Incl. test leads, holster, temperature sensor and battery	
Accessories (option)	Adapter for K-Type sensor system carrying case	

Testboy 3000

Digital multimeter with cable break detector and LED torch

Modern design, the newest technology, as well as an extended range of functions, enables universal operation of the digital multimeter, Testboy 3000, in industry and trade. Due to the ABS housing, resistant to breakage and impacts and the easy operation, it is suitable for measuring under the roughest conditions.

How you benefit

| ABS housing, resistant to breakage and impacts
| Non-contact cable break detector
| LED torch

SPECIFICATIONS

	Testboy 3000	
DC voltage	200 mV	±0.5 %, ±3 Digits
	2 V, 20 V, 200 V, 600 V	±0.8 %, ±5 Digits
AC voltage	2 V, 20 V	±1.5 %, ±5 Digits
	200 V, 600 V	±1.5 %, ±5 Digits
DC current	200 µA, 2000 µA	±1.0 %, ±3 Digits
	10 A	±1.2 %, ±5 Digits
AC current	200 µA, 2000 µA	±1.3 %, ±5 Digits
	10 A	±1.5 %, ±8 Digits
Resistance	200 Ω	±1.0 %, ±5 Digits
	2 kΩ, 20 kΩ, 200 kΩ	±1.0 %, ±5 Digits
	2 MΩ,	±1.0 %, ±5 Digits
	20 MΩ	±1.8 %, ±5 Digits
Continuity test	Audible signal if resistance < 50 Ω	
Diode test	Test current 0.6 mA Off-load voltage typ. 1.5 V	
Non-contact voltage test	100–600 V AC (optical and acoustic)	
Maximum input voltage	600 V AC/DC	
Input impedance	> 7.5 MΩ, type 10 MΩ (AC V & DC V)	
AC V bandwidth	50–400 Hz	
Operating temperature range	0–40 °C (32–104 °F)	
Storage temperature range	-10–50 °C (14–122 °F)	
LED torch	white high-performance LED	
Auto-Power-Off	15 minutes	
Overvoltage category	CAT IV 600 V	
Standard	IEC/EN 61010-1, IEC/EN 61010-2-033	
Dimensions	165 × 85 × 32 mm	
Weight	300 g incl. batteries	
Colour	Red/black	
Power supply	2 × 1.5 V AAA	
Scope of delivery	Incl. test leads, system carrying case, batteries	

Testboy Pocket

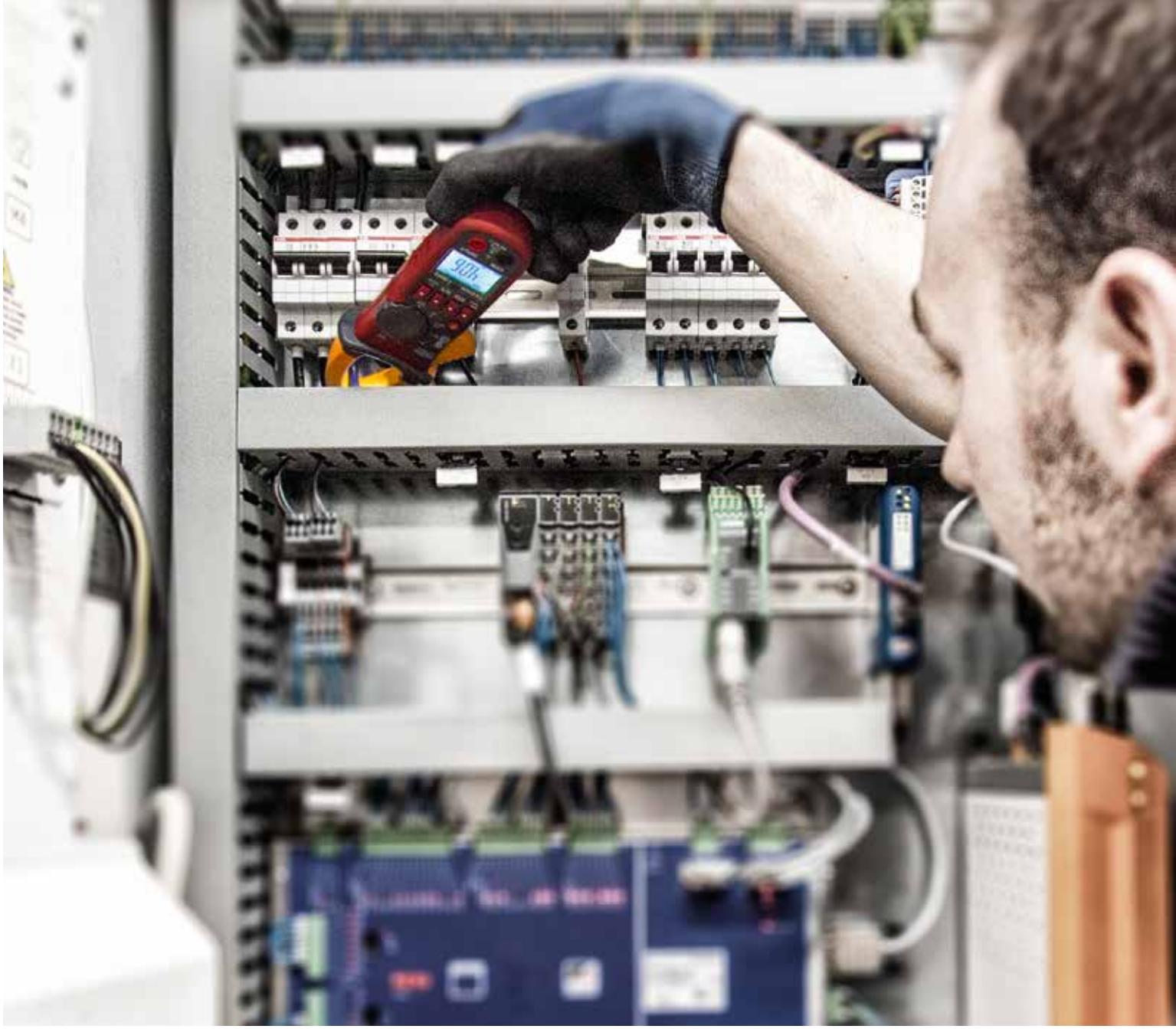
Digital multimeter in compact construction

A digital high-performance multimeter with a large LC display is concealed in the Testboy Pocket. The compact construction and easy operation, with automatic ranging and Data-Hold function, make it an ideal assistant for every service technician.

How you benefit
| Compact construction
| Large LCD
| Auto-Range function

SPECIFICATIONS

	Testboy Pocket	
AC voltage	0–300 V	±1.5 %, ±3 Digits
DC voltage	0–300 V	±1.8 %, ±3 Digits
Resistance	0–200 Ω	±2.5 %, ±4 Digits
	200–40 MΩ	±2.0 %, ±3 Digits
Input impedance DCV & ACV	> 200 kΩ	
AC V bandwidth	40–70 Hz	
Frequency measuring range	0–200 kHz	
Capacitance measurement range	0–200 µF	
Continuity test	Audible signal if resistance < 50 Ω	
Diode test	Yes	
Duty cycle in %	Yes	
Ranging	Automatic	
Data-Hold function	Yes	
Overvoltage category	CAT III 300 V	
Standard	IEC/EN 61010-1, IEC/EN 61010-2-033	
Operating temperature range	0–40°C ≤ 75 % RH	
Storage temperature range	-10–50 °C ≤ 75 % RH	
Dimensions	119 × 65 × 18 mm	
Weight	130 g	
Colour	Red/black	
Power supply	2 × batteries 1.5V AAA, LR03	
Scope of delivery	Incl. batteries and system carrying case	



Current measurement clamps

Testboy TV 215N

Digital clamp meter

Due to the manual or automatic ranging, the digital clamp meter, Testboy TV 215N, enables variable and safe working. It is suitable for use in the service sector as well as in industry or for installations.

How you benefit
| Automatic or manual ranging
| System carrying case

SPECIFICATIONS

	Testboy TV 215N	
Display	LCD with 3 1/2 Digits, 1999	
AC current (50–60 Hz, resolution 1 mA)	Up to 0.5 A 2 A, 20 A 200 A 600 A	±3.5 %, ±20 Digits ±3.0 %, ±10 Digits ±2.5 %, ±10 Digits ±1.5 %, ±5 Digits
AC voltage (40–200 Hz, resolution 1mV)	Up to 200 mV 2 V, 20 V, 200 V 600 V	±0.1 %, ±10 Digits ±1.0 %, ±5 Digits ±1.2 %, ±5 Digits
DC voltage (resolution 100 µV)	Up to 200 mV 2 V, 20 V, 200 V, 600 V	±0.8 %, ±2 Digits ±1.0 %, ±2 Digits
Resistance (resolution 100 mΩ)	200 Ω, 2 kΩ, 20 kΩ, 200 kΩ, 2 MΩ 20 MΩ	±1.2 %, ±2 Digits ±2.0 %, ±5 Digits
Input resistance	10 MΩ	
Diode test (resolution 1mV)	Test current ~ 1 mA, test voltage ~1.5 V	
Continuity test	Audible signal if resistance <60 Ω	
Ranging	Automatic and manual	
Data-Hold function	Yes	
Overvoltage category	CAT III 600 V	
Standard	EN61010–2-032 (VDE 0411-2-032)	
Dimensions	220 × 75 × 35 mm	
Weight	340 g	
Colour	Red/black	
Power supply	3 × 1,5 V AAA, LR03	
Scope of delivery	Incl. operating instructions, test leads, batteries and system carrying case	

Testboy TV 216N

Digital clamp meter

Due to its variable measuring functions, the digital clamp meter, Testboy TV 216N, can be operated universally. Useful details, such as the large display, manual or automatic ranging and measurement position lighting, makes operation particularly easy and reliable.

How you benefit
| Large range of functions
| Easily legible LCD
| LED Measurement position lighting

SPECIFICATIONS

	Testboy TV 216N	
Display	LCD with 4 digits	
AC current TRMS (40–400 Hz, resolution 10 mA)	60 A, 600 A	±3.0 %, ±10 Digits
DC current (resolution 10 mA)	60 A, 600 A	±3.0 %, ±10 Digits
AC voltage TRMS (40–400 Hz, resolution 100 µV)	up to 600 mV 6 V, 60 V 600 V	±1.5 %, ±10 Digits ±1.2 %, ±5 Digits ±1.5 %, ±10 Digits
DC voltage (resolution 100 µV)	600 mV, 6 V, 60 V 600 V	±0.8 %, ±3 Digits ±1.0 %, ±5 Digits
Frequency meas. Clamp (resolution 100 mHz)	600 Hz, 1 kHz > 1 A AC rms	±1.5 %, ±5 Digits
Frequency meas. Jack (resolution 100 mHz)	600 Hz, 6 kHz, 10 kHz > 0.2 V AC rms	±1.5 %, ±5 Digits
Resistance	600 Ω, 6 kΩ, 60 kΩ, 600 kΩ, 6 MΩ 60 MΩ	±1.2 %, ±2 Digits ±2.0 %, ±5 Digits
Input resistance	10 MΩ	
Sampling rate	10–95 %, ±3.0 %, > 1 A AC rms	
Frequency range	10 Hz to 1 kHz	
Capacitance measurement	Up to 60 mF	
Diode test (resolution 1 mV)	Test current ~1 mA, test voltage ~3.3 V	
Continuity test	Audible signal if resistance <30 Ω	
Ranging	Automatic and manual	
Measurement position lighting	LED	
Data-Hold function	Yes	
Overvoltage category	CAT III 600 V	
Standard	EN61010–2-032 (VDE 0411-2-032)	
Dimensions	220 × 75 × 35 mm	
Weight	340 g	
Colour	Red/black	
Power supply	3 × 1.5 V AAA, LR03	
Scope of delivery	Incl. test leads, batteries and system carrying case	

Testboy TV 218

Digital miniature clamp meter

Small but oho! There is no reason for the digital miniature clamp meter, Testboy TV 218, to hide and, due to TrueRMS, provides exact measuring results, also at locations difficult to access. In addition, despite the compact construction, it is convincing with useful functions such as Data-Hold or Auto-Power-Off.

How you benefit
| Extremely compact construction
| True RMS
| Data-Hold function

SPECIFICATIONS

	Testboy TV 218	
Display	LCD with 3 3/4 Digits, 4000 counts	
DC current	40 A, 200 A	±3.0 %, ±5 Digits
AC current (TRMS)	40 A, 200 A	±2.5 %, ±8 Digits
Resolution	0.01 A at 40 A 0.1 A at 200 A	
Max. jaw opening	Ø 21 mm	
Sampling rate	3 times per second	
Operating temperature range	0 – 40 °C, <75 %RH	
Storage temperature range	-20 – 60 °C, <80 %RH	
Data-Hold function	Yes	
Auto-Power-Off	Yes	
Overvoltage category	CAT III 300 V	
Standard	IEC/EN 61010-1 (DIN VDE 0411)	
Dimensions	155 × 50 × 25 mm	
Weight	95 g	
Colour	Red/black	
Power supply	2 × 1.5 V; LR44	
Scope of delivery	incl. batteries and system carrying case	

Socket outlet testers

Testavit Schuki 1A / 3A

Socket outlet testers

The Testavit Schuki 1A and 3A socket outlet testers are essential test instruments for all professional tradesmen. They indicate all connection errors that are a risk to life at the sockets, cable drums, instrument lines and connection cables in 230-V installations for specific light combinations of the LEDs. Thereby, installations can be checked quickly and safely. The Testavit Schuki 1a also has an FI test function.

How you benefit
| Quick and safe checking of installations
| FI test (Schuki 1A)

SPECIFICATIONS

	Testavit Schuki 1A	Testavit Schuki 3A
Display	Optical, LED	
Operating voltage	230 V, 50 Hz	
Power supply	Via test object	
Rated leakage current	30 mA	No
FI test	Using test button	No
Protection class	IP 40	
Overvoltage category	CAT II 300 V	
Standard	IEC/EN 61010-1 (DIN VDE 0411)	
Dimensions	60 × 60 mm	
Weight	40 g	
Scope of delivery	Incl. operating instructions	

Testavit Schuki 2K

Socket test instrument

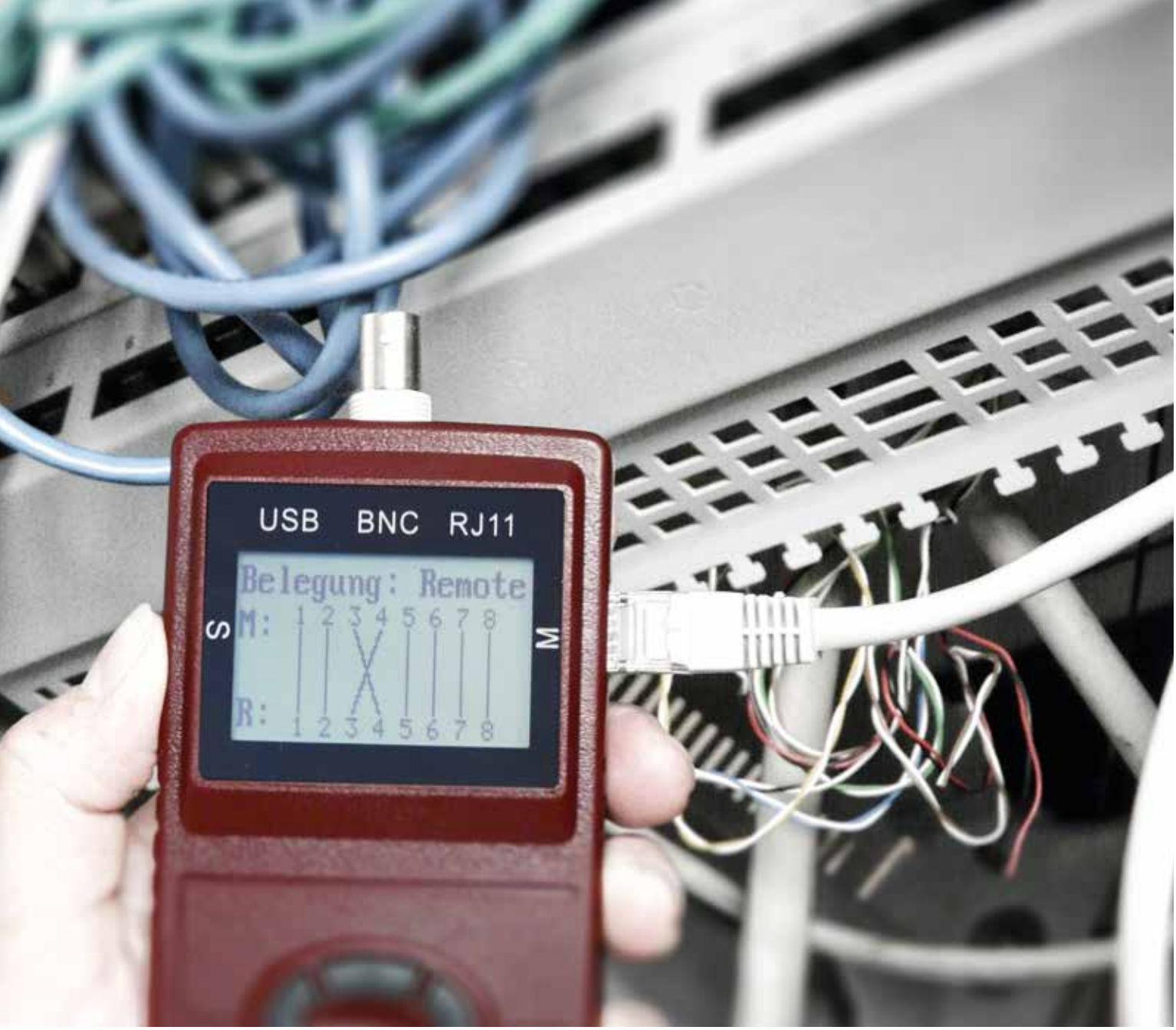
Using the Testavit Schuki 2K, sockets in 230-V installations can be checked for correct connection of the conductor and an FI test can be carried out. Due to the cable with shockproof plug, this is also easily possible in areas difficult to access.

How you benefit

| Easy checking of sockets difficult to access
| FI test with adjustable rated leakage current

SPECIFICATIONS

	Testavit Schuki 2K
Display	Optical, glow lamps
Operating voltage	230 V, 50 Hz
Power supply	Via test object
Rated leakage current	10 mA, 30 mA, 100 mA, 300 mA, 500 mA
Trip-out time	200 ms
FI test	using test button
Overvoltage category	CAT II 300 V
Standard	IEC/EN 61010-1 (DIN VDE 0411)
Dimensions	100 × 50 × 75 mm
Weight	250 g
Colour	Grey
Scope of delivery	Incl. operating instructions and system carrying case



Cable detector, network tester

Testboy 26

Cable detector set with LED torch

The cable detector, Testboy 26, makes it easier to find cables in the wall and cable ducts. Here, an adapter or carrier signal from the transmitter is modulated by means of crocodile clips or the adapter to one end of the cable. The other end of the cable can then be found quickly and precisely with the receiver without contact or having to strip the cable insulation. Two-core cables can also be exactly identified in telecommunication and network technology.

How you benefit
| Variable setting of the sensitivity
| LED torch

optional accessories

SPECIFICATIONS

	Testboy 26
Display	Continuous or alternating tone
LED torch light	Yes
Dimensions	230 × 55 × 23 mm (receiver) 55 × 57 × 23 mm (transmitter)
Weight	244 g
Colour	Red/black
Power supply	2 × 9 V Block, 6LR61
Scope of delivery	Incl. system carrying case, operating instructions and batteries
Accessories (option)	Adapter set with coax, F and RJ11adpater

Testboy 28

Network tester for USB, RJ11 and BNC cables

The Testboy 28 is a handy multifunction network tester and cable length measuring device with LC display, sound generator and port finder function. Conventional cable formats can be examined for interruption crossover, transposition, short-circuits or split-pairs instantly using it. In addition, the length of the cable can be measured.

How you benefit
| Easy troubleshooting
| Cable length measurement
| Clear LCD

SPECIFICATIONS

	Testboy 28
Display	LCD
Measuring application	USB, RJ11, BNC cables Cable length measurement
Dimensions	150 × 65 × 25 mm
Weight	190 g incl. battery
Colour	Red
Power supply	1 × 9 V Block, 6LR61
Scope of delivery	Incl. battery

Installation tester, adapter

Testboy TV 416/432(A)

CEE adapter*

The Testboy TV 416/432(A) is a compact CEE adapter, comprising of a combination of CEE plug (16 A or 32 A), shockproof socket and self-closing flap cover, as well as integrated electronics for phase sequence measurement (only TV 416/432). In order to determine wiring errors, or to test the effectivity of the FI circuit breaker, it can be combined with the socket test devices Testavit Schuki 1A, 2K and 3A.

How you benefit

| Unbreakable PE housing
| Can be combined with Testavit Schuki 1A, 2K and 3A
| Phase sequence indication (only TV 416/432)

SPECIFICATIONS

	Testboy TV 416/432	Testboy TV 416A/432A
Phase sequence indication	Glow lamps	No
Power supply	Via test object	
Overvoltage category	CAT II 300 V	
Dimensions	165 × 65 mm	
Weight	250 g	
Colour	Red/white/blue	

* For test purposes only

Testboy TV 410N

Rotating field tester

Using five glow lamps, the rotary field tester, Testboy TV 410N, indicates the presence of all three phases and, through their sequence, determines the correct order of the phases. The housing is made from impact-resistant, unbreakable ABS plastic, the fully insulated 4 mm sockets and the associated comprehensive and adaptable connection cable set provide safe testing and rapid determination of the phasing in a three-phase system.

How you benefit

| Comprehensive connection cable set
| Impact-resistant and unbreakable ABS plastic housing

SPECIFICATIONS

	Testboy TV 410N
Display	Optical, 5 glow lamps
Voltage range	60–400 V AC
Current consumption	< 3 mA
Frequency range	50/60 Hz
Power-on time	30 s
Power supply	Via measurement object
Housing	ABS synthetic material, resistant to breaking by impact
Dimensions	115 × 60 × 25 mm
Weight	75 g
Colour	Red
Scope of delivery	Incl. Profi test probes, 4-mm safety cable, Profi crocodile clip and system carrying case

Testboy TV 430N

Digital insulation tester

The digital insulation measurement device, Testboy TV 430N, enables easy checking of the insulation resistance of devices, electrical installations and circuits. For particular meaningful measurement results, there are three test voltages available for selection. A continuity tester and AC voltmeter have extend the area of operation.

How you benefit

| Checking with DC voltage
| Three selectable test voltages
| Continuity tester and AC voltmeter

SPECIFICATIONS

	Testboy TV 430N	
Display	LCD with 3 1/2 Digits	
Insulation resistance	0.25 – 200 MΩ	±3 %, ±3 Digits
	200 – 2000 MΩ	±5 %, ±5 Digits
Test voltage	250 V, 500 V, 1000 V AC	
Resolution	1 kΩ	
Test current	1 mA	
Continuity test	Audible signal if resistance < 50 Ω	
Test voltage	~2.8 V	
AC voltage	0 – 600 V AC	±1.5 %, ±3 Digits
Resolution	1 V	
Overvoltage category	CAT II 600 V	
Dimensions	188 × 110 × 62 mm	
Weight	485 g	
Colour	Red	
Power supply	6 × 1.5 V AA, LR06	
Scope of delivery	Test lead set, batteries and system carrying case	

Testboy TV 440N

Digital earth resistance tester

The Testboy TV 440N earth resistance tester is suitable for checking the resistance between the reference earth and the connection point of the earthing system. For measurement purposes, an alternating current is fed between the earth strip and the earth electrode to be measured. The voltage drop is measured and the earth resistance is determined with a probe positioned in the area of the reference earth of the earth electrode.

How you benefit
| Auto power-off
| Data-Hold function

SPECIFICATIONS

	Testboy TV 440N	
Display	LCD with 3 1/2 Digits	
Earth resistance	20 Ω, 200 Ω, 2000 Ω	±2 %, ±3 Digits
Earth voltage	0–200 V, 40–400 Hz	±1.5 %, ±5 Digits
Resolution	0.01 Ω at 20 Ω 0.1 Ω at 200 Ω 1 Ω at 2000 Ω	
Measuring system	Constant current, 2 mA	
Auto-Power-Off	After 5 minutes	
Data-Hold function	Yes	
Overvoltage category	CAT II 600 V	
Standard	IEC/EN 61010-1 (DIN VDE 0411)	
Dimensions	168 × 110 × 62 mm	
Weight	590 g	
Colour	Red	
Power supply	6 × 1.5 V AA, LR06	
Scope of delivery	Incl. earth rods, test lead set, batteries and system carrying case	

Testboy TV 445

Installation tester DIN VDE 0100-600

The installation tester, Testboy TV 445, enables checks in accordance with DIN VDE 0100-600. It is particularly easy to operate – not least due to the large LCDs and specific help screens, which exactly describe how to carry out a measurement. Already stored safety and RCD (FI) characteristics evaluate the result using Good/Bad message.

How you benefit

| Check in accordance with DIN VDE 0100-600, ÖVE E8001, NIN/NIV
| Specific help screens
| Large LCD
| Good/Bad message

SPECIFICATIONS

	Testboy TV 445
Display	128 × 64 pixels with backlighting and integrated Good/Bad indication
Voltage measurement	0–550 V AC
Earth resistance measurement	0–9999 Ω
Insulation resistance	0–999 MΩ
Test voltage	50 V, 100 V, 250 V, 500 V, 1000 V
FI/RCD test	Type A, AC
Contact voltage RCD-Uc	0–100 V
Trip-out time	0–2500 ms
Trip-out current	10 mA, 15 mA, 30 mA, 100 mA, 300 mA, 500 mA, 1000 mA
Operating temperature	0–40 °C
Overvoltage category	CAT III 600 V, CAT IV 300 V
Test standards	DIN VDE 0100-600, ÖVE E8001, NIN/NIV
Housing	Robust plastic with integrated magnetic clamp
Power supply	6 × 1.2 V NiMH battery or battery AA
Scope of delivery	Incl. universal test cable 3 × 1.5 m, test cable for shockproof sockets, 3 test probes (blue, black, green), 3 crocodile clips (blue, black, green), mains adapter and batteries, carry strap, quick guide and product test data

Testboy TV 455

Installation tester DIN VDE 0100-600

As its small brother, the TV 445, the Testboy TV 455 is suitable for testing in accordance with DIN VDE 0100-600. However, it has additional integrated test lead calibration. Due to the USB interface, the measurement results can be easily evaluated using the PC software supplied. Furthermore, it enables testing AC/DC sensitive RCDs TYPE B.

How you benefit

| Check in accordance with DIN VDE 0100-600, ÖVE E8001, NIN/NIV
| USB interface and PC software
| Testing AC/DC sensitive RCDs (TYPE B)
| Integrated test lead calibration
| Log in accordance with ZVEH (option)

SPECIFICATIONS

	Testboy TV 455
Display	128 × 64 pixels with backlighting and integrated Good/Bad indication
Voltage measurement	0–550 V
Earth resistance measurement	0–9999 Ω
Insulation resistance	0.15 MΩ to 1 GΩ
FI/RCD test	Type A, AC, B
Contact voltage RCD-Uc	0–100 V
Trip-out time	0–2500 ms
Trip-out current	10 mA, 30 mA, 100 mA, 500 mA, 1000 mA
Measurement value memory	1900 measurement values
Overvoltage categories	CAT III 600 V, CAT IV 300 V
Test standards	DIN VDE 0100-600, ÖVE E8001, NIN/NIV
Operating temperature	0–40 °C
Housing	Robust plastic with integrated magnetic clamp
Interface	USB
Power supply	6 × NiMH battery or battery AA
Scope of delivery	Incl. universal test cable 3 × 1.5 m, test cable for shockproof sockets, test probes, crocodile clips, mains adapter and batteries, carry strap, quick guide, CD with PC software, factory calibration certificate

Testboy TV 465

Device tester DIN VDE 0701/0702

The Testboy TV 465 is a mains-independent device tester for testing mobile devices in accordance with DIN VDE 0701-0702. Due to the test sequences that are preprogrammed or can be self-defined, the menu-assisted help function, as well as the Good/Bad messages, it is particularly easy to operate and, thus, enables quick and uncomplicated tests.

How you benefit

| Testing in accordance with DIN VDE 0701-0702, BGV A3, BetrSichV, ÖVE E 8701/E 8702
| Integrated compensation module
| Menu-guided help function
| Battery capacity sufficient for approx. 2600 test objects (depending on the number of measurements)
| Screening test possible

SPECIFICATIONS

	Testboy TV 465
Display	128 × 64 pixels with backlighting and integrated Good/Bad indication
Protective conductor resistance	0–1999 Ω
Test current	200 mA
Insulation resistance	0–199.9 MΩ
Test voltage	up to 500 V DC
Alternative leakage current	0–20.0 mA
Measurement voltage	0–300 V
Polarity check	Test voltage <50 V AC
Ranging	Automatic
Overvoltage category	CAT II 300 V
Protection class	I, II, III
Test standards	DIN VDE 0710-0702, BGV A3, BetrSichV, ÖVE E8701/E 8702
Dimensions	235 × 140 × 80 mm
Weight	1195 g
Interfaces	USB and RS-232
Power supply	6 × 1.2 V NiMH battery or 6 × 1.5 V AA
Scope of delivery	Incl. user manual, mains adapter and batteries, system carrying case, test lead with test probe and crocodile clip
Accessories (option)	Memory expansion and software, USB interfaces cable

Testboy TV 470

VDE tester DIN 0701/0702/EN 62353

The Testboy TV 470 is a handy test instrument designed for safety and repeat testing of portable equipment in accordance with DIN VDE 0701/0702 and EN 62353. Due to self-explanatory operability, logging software and DAkkS calibration certificate, it enables companies to carry out checks themselves in accordance with the standards, including documentation.

How you benefit

| Specified test sequence with Good/Bad message
| Help screen for each measurement
| Bar code scanner
| Logging software
| DAkkS calibration certificate

SPECIFICATIONS

	Testboy TV 470	
Display	128 × 64 pixels with backlighting	
Protective conductor resistance	0.1 – 2 Ω	±10 %
Insulation resistance	0.1 – 200 MΩ	±10 %
Contact current	0.1 – 20 mA	±5 %
Subst. leakage current	0.1 – 20 mA	±5 %
Load current	0.2 – 16.0 A	±5 %
Output	50 – 3700 V A	±5 %
PELV test	from 25 V eff.	
Input current	max. 16 A	
Data storage	up to 500 test objects	
Overvoltage category	CAT II 600 V	
Test standards	DIN VDE 0701/0702, EN 62353	
Operating temperature	0 – 40 °C	
Dimensions	250 × 170 × 55 mm	
Weight	1445 g	
Interface	USB	
Power supply	230 V ±10 %; 50 Hz ±2 %	
Scope of delivery	incl. test lead set, Windows® software CD, USB connection cable, system carrying case, mains lead and bar code scanner	

Thermometer, luxmeter, humidity and range finder

Testboy TV 322

Infrared thermometer

The practical infrared thermometer, Testboy TV 322, is distinguished by its ease of use. The display backlighting ensures that the measurement data can also be read in poor light conditions. Made from impact-resistant and unbreakable ABS plastic, the housing is also suitable for use in tough environments.

How you benefit
| °C-/°F switching
| Manually selectable laser point
| Illuminated display

SPECIFICATIONS

	Testboy TV 322
Display	LCD with backlighting
Detector	Thermopile
Measuring optic	8:1
Laser point	Selectable
Measurement range	-20–380°C, -4–716°F
Measurement accuracy	±2.0 °C (±1.8°F)
Response time	< 1 s
Over-range indication	"1" for exceeding measurement range
Emissivity	0.95 (fixed)
Auto-Power Off	After approx. 15 s
Data-Hold function	Yes
Operating temperature	0–50 °C, 32–122 °F
Humidity	10–80 % RH
Housing	ABS synthetic material, resistant to breaking by impact
Dimensions	175 × 90 × 40 mm
Weight	150 g
Colour	Red/grey
Power supply	1 × 9 V Block, 6LR61
Scope of delivery	Incl. battery and system carrying case

Testboy TV 323

Infrared thermometer

The infrared thermometer, Testboy TV 323, is also convincing due to its uncomplicated operation. However, it has an extended temperature range of -50 °C to 550 °C (-58 °F to 1022 °F) as well as Min/Max value indication. Thus, it is well suited for daily use in the trade and industry.

How you benefit
| Data-Hold function
| Auto power-off
| Min/Max value indication

SPECIFICATIONS

	Testboy 323
Display	LCD with backlighting
Detector	Thermopile
Measuring optic	12:1
Laser point	Selectable
Measurement range	-50 – 550 °C, -58 – 1022 °F
Measurement accuracy	±2.0 °C, ±3.6 °F
Response time	< 1 s
Over-range indication	"1" for exceeding measurement range
Emissivity	0.95 (fixed)
Auto-Power Off	After approx. 10 s
Data-Hold function	Yes
Min/Max value indication	Yes
Operating temperature	0 – 50 °C, 32 – 122 °F
Humidity	10 – 80 % RH
Housing	ABS synthetic material, resistant to breaking by impact
Dimensions	152 × 94 × 38 mm
Weight	127 g
Colour	Red/black
Power supply	2 × 1.5 V AAA, LR03
Scope of delivery	Incl. batteries

Testboy TV 325

Infrared thermometer

The infrared thermometer, Testboy TV 325, impresses with its many useful functions, for example, Min/Max value memory, adjustable emissivity and averaging. In addition, it also has a connection for conventional K-Type sensor and, thus, is equally suitable for use in industrial companies, car workshops, heating, refrigeration and air-conditioning systems or the electric trade.

How you benefit

| Min/Max value memory/alarm function
| Adjustable emissivity
| Averaging
| Connection for K-Type sensor
| LED torch

SPECIFICATIONS

	Testboy TV 325
Display	LCD with backlighting
Detector	Thermopile
Measuring optic	12:1
Laser point	Selectable
Measurement range	-60 – 500 °C, -76 – 932 °F infrared -64 – 1400 °C, -82,3 – 1999 °F with K-Type sensor
Measurement accuracy infrared	Object 15 – 35 °C, ambient 25 °C: ±1,0°C, ±1,8°F Object -33 – 15 °C and 35 – 500 °C, ambient 23 °C ±3 °C: ±2°C, 4°F or ±2 %, the greater value applies
Measurement accuracy K-Type sensor	Ambient 23°C ± 6°C: ±1 °C, 1,8 °F or ±1 %, the greater value applies
Emissivity	0.95 specified; adjustable from 0.10 – 1.00 in 0.01 increments
Resolution	0,1° (-9,9 – 199,9°)
Response time	< 0.5 s
Min/Max value memory	With alarm function
Averaging	Yes
Auto-Power Off	After approx. 10 s
Data-Hold function	Yes
LED torch	Can be selected
Temperature sensor	Option to connect K-Type sensor
Operating temperature	0 – 50 °C, 32 – 122 °F
Humidity	10 – 90 % RH
Housing	ABS synthetic material, resistant to breaking by impact
Dimensions	49 × 133 × 146 mm
Weight	222 g
Colour	Red/grey
Power supply	2 × 1.5 V AAA, LR03
Scope of delivery	Incl. batteries, system carrying case and K-Type sensor

Testboy TV 328

Mould detector

Due to the dew point display, together with the mould detector, Testboy TV 328, it can find locations at risk through mould in seconds, as well as highlighting concealed and invisible thermal bridges. Due to the comprehensive performance spectrum and easy operation, it is very suitable for mobile use.

How you benefit

| Dew point display
| Relative humidity measurement
| Laser ring
| Adjustable emissivity
| Averaging

SPECIFICATIONS

	Testboy 328
Display	LCD with backlighting
Detector	Thermopile
Measuring optic	12:1
Measurement range	-20–350 °C, 4–662 °F infrared -10–40 °C, 14–140 °F with ambient sensor
Measurement accuracy infrared	Object 10–30 °C: ±1 °C, ±1.8 °F Object -20–10 °C and 30–200°C: ±3 °C, 4 °F or ±2 %, the greater value applies
Emissivity	0.75, 0.85 and 0.95 preset
Resolution	0.1 °
Response time	< 0.5 s
Auto-Power Off	After approx. 25 s
Data-Hold function	Yes
Operating temperature	-10–40 °C, -14–140 °F
Humidity	10–90 % RH
Laser class	II, 650 nm, <1 mW
Housing	ABS synthetic material, resistant to breaking by impact
Dimensions	56 × 194 × 162 mm
Weight	222 g
Colour	Red/black
Power supply	1 × 9 V
Scope of delivery	Incl. battery and system carrying case

Testboy TV 333

Digital luxmeter

Using the digital luxmeter, Testboy TV 333, the light strength can be recorded at a specified place – due to freely moving sensor, also at locations difficult to access. The silicon photo diodes behind a large diffuser enables precise measurements of up to 100.000 Lux. Thereby, for example, it is suitable for measurements in offices, conference rooms, classrooms and other public buildings.

How you benefit

| Free-moving sensor with coiled cable
| Large, high-contrast display
| Sensor protection cover

SPECIFICATIONS

	Testboy TV 333
Display	18 mm high LCD
Measurement range	0 – 100000 lx
Measurement rate	0.4 s
Over-range indication	"1" for exceeding measurement range
Operating temperature	0 – 50 °C (32 – 122 °F)
Dimensions	130 × 72 × 30 mm
Weight	40 g
Power supply	1 × 9 V Block
Scope of delivery	Incl. operating instructions

Testboy TV 335

Digital LED luxmeter

The Testboy TV 335 is a digital luxmeter in a practical and robust plastic housing with a large measurement range of up to 400.000 Lux. Due to photo diodes sensitive to artificial light and adjustable colour temperature, it is also suitable to determine the light strength of LED lighting etc. The large LC display ensures quick and reliable reading of the measurement result.

How you benefit

| Photo diodes sensitive to artificial light (e.g. LED lighting)
| Adjustable colour temperature
| Data-Hold function
| Sensor protection cover

SPECIFICATIONS

	Testboy TV 335
Display	LCD with 3 ½ digits and bar chart
Measurement ranges	20 lx, 200 lx, 2000 lx, 20000 lx, 400000 lx 20 fc, 200 fc, 2000 fc, 40000 fc 0~ 999900 cd
Accuracy	3 % V(λ) adaptation 2 % cosine correction
Sensor	Silicon photo diodes
Spectral range	320–730 nm
Sampling rate	Ø 2 measurements per second
Standard	DIN 5032-7 Type B
Operating temperature	-10–50 °C
max. relative air humidity	85 % (not condensing)
Dimensions	89 × 190 × 42.5 mm
Weight	250 g (incl. battery)
Power supply	1 × 9 V Block
Scope of delivery	Incl. battery and system carrying case

Testboy TV 340

Hygrometer

The Testboy TV 340 is a handy device for measuring the moisture content in building materials. The integrated measurement probes are of thin design, in order to ensure correct measurement in materials such as timber, plywood, chipboard, veneer, drywall or plaster. During transportation, they are protected by a practical cap.

How you benefit

| No separate test leads or probes
| Measurements of up to 40% humidity possible
| Auto power-off
| Integrated self-test unit

SPECIFICATIONS

	Testboy TV 340	
Measurement range	5–40 %	
Measurement accuracy	≤ 28 %	± 2 %
	>28 %	± 5%
Resolution	1%	
Auto-Power-Off	Yes	
Operating temperature	5–40 °C	
Storage temperature	-20–50 °C	
Dimensions	150 × 70 × 30 mm	
Weight	165 g	
Power supply	1 × 9 V Block	
Scope of delivery	Incl. operating instructions, battery and system carrying case	

Testboy TV 600

Laser range finder

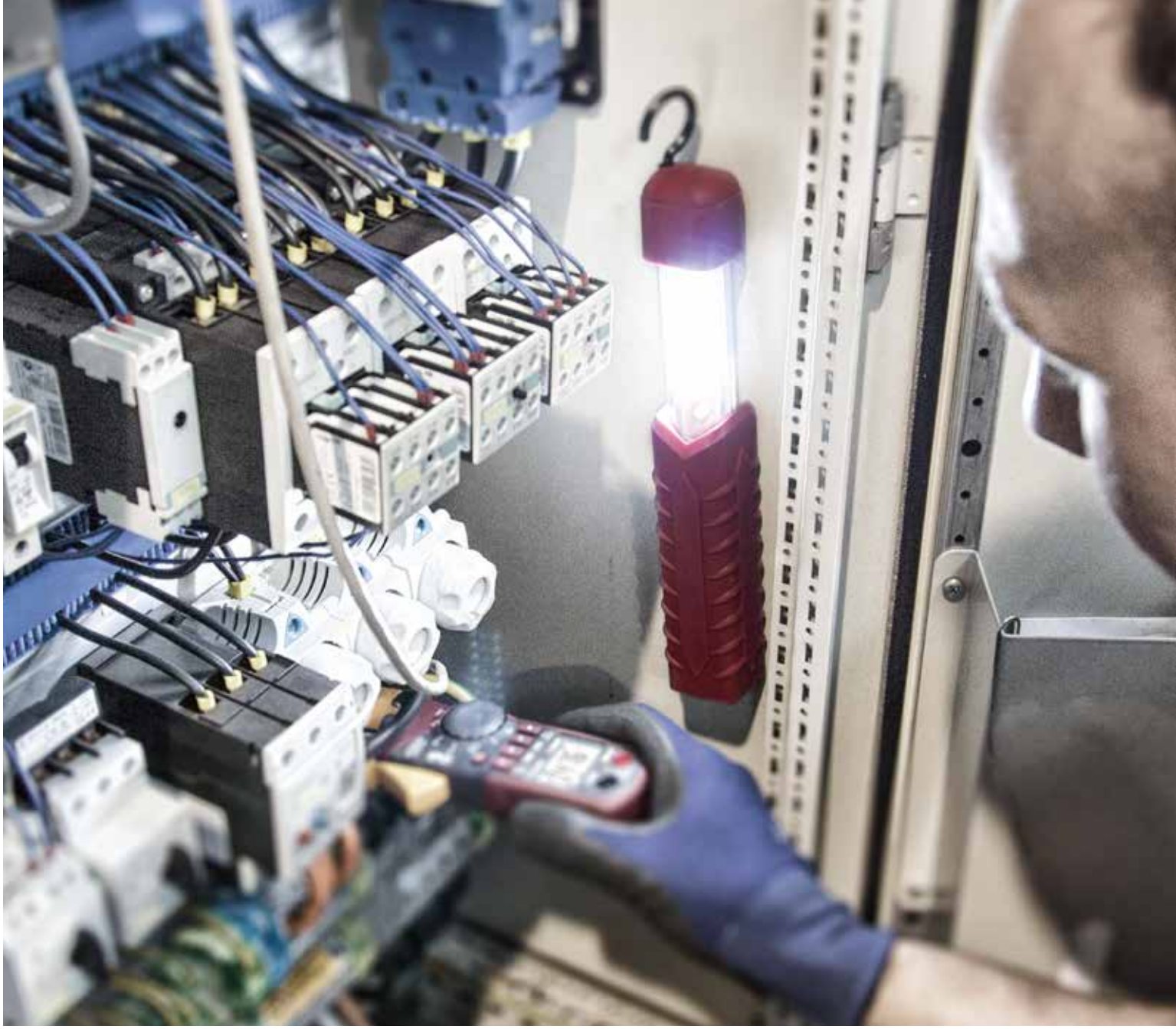
The Testboy TV 600 reliably measures distances of up to 40 metres and enables addition and subtraction. In addition, it can calculate volumes and surface areas, as well as assisting the indirect measurement procedure for determining the height. It has an easily legible LCD with backlighting and, when not used, switches off to save the batteries.

How you benefit

| Range up to 40 m
| Addition/subtraction
| Surface area calculation
| Volume calculation
| Pythagoras calculation

SPECIFICATIONS

	Testboy TV 600
Display	LCD with backlighting
Measuring range	0.05 – 40.00 m
Measurement accuracy	± 3 mm with maximum distance
Resolution	1 mm
Measuring functions	Continuous measurement Addition/subtraction Surface area calculation Volume calculation Pythagoras calculation
Auto-Power Off	After approx. 180 s
Operating temperature	0 – 70 °C
Dimensions	116 × 54 × 35 mm
Weight	155 g
Power supply	2 × 1.5 V AAA, LR03
Scope of delivery	Incl. batteries and system carrying case



LED light

Testboy Light 500

LED work light with NiMH battery and holding magnets

The Testboy Light 500 is a high-performance LED work light with a robust housing, resistant to impact, acids and oil and has a five year warranty (excluding the battery). It has more than 27 super-bright, white LEDs and a maintenance-free NiMH battery, which enables a lighting duration of approximately 4.5 hours. Due to attachment hooks and holding magnets, it is also very suitable for use in restricted working environments.

How you benefit
| 27 High-performance LEDs
| Approx. 4.5 h operating life
| Maintenance-free NiMH battery
| IP 54

Product video at www.testboy.de

SPECIFICATIONS

	Testboy Light 500
Display	27 bright, white LEDs
LED configuration	1 × centre row as a spotlight 2 × outer rows as diffused light
Suspension	Attachment hook, can be rotated through 360°
Attachment	2 holding magnets
Operating life	4.5 h
Charge time	2 h
Protection class	IP 54
Standard	IEC/EN 61010-1 (DIN VDE 0411)
Dimensions	320 × 40 × 45 mm
Weight	320 g
Colour	Red
Power supply	1 × 3.6 V 1800 mAh NiMH battery
Scope of delivery	Incl. charger 230 V AC and 12 V DC

Vehicle measuring instruments

Testboy 50

Brake fluid tester DOT 4

The Testboy 50 is a handy testing pin which can test the brake fluids DOT 4 in seconds. Five LEDs precisely indicate the water content in brake fluids manufactured based on glycol. Thereby, it is suitable for quick checking during the order acceptance in car workshops.

How you benefit
| Checking brake fluids DOT 4
| Illuminated measurement probes
| Long service life, as acid and alkali-resistant

SPECIFICATIONS

	Testboy 50
Display	Optical via 5 LEDs
Measuring range	DOT 4
Protection class	IP 40
Standard	IEC/EN 61010-1 (DIN VDE 0411)
Dimensions	152 × 23.5 mm
Weight	40 g
Colour	Black
Power supply	1 × 12 V, type V23
Scope of delivery	Incl. battery

Testboy 55

Brake fluid tester DOT 3, DOT 4, DOT 5.1

The brake fluid tester, Testboy 55, quickly and accurately checks the water content in brake fluids DOT 3, DOT 4 and DOT 5.1. Due to different measurement areas, user-friendly operation and compact construction, it is equally suitable for use in car, lorry and motorbike workshops.

How you benefit

| Checking brake fluids DOT 3, DOT 4, DOT 5.1
| Measurement location lighting
| Long service life, as acid and alkali-resistant

SPECIFICATIONS

	Testboy 55
Display	Optical via 3 LEDs
Measurement ranges	DOT 3, DOT 4, DOT 5.1
Protection class	IP 40
Standard	IEC/EN 61010-1 (DIN VDE 0411)
Dimensions	152 × 23.5 mm
Weight	40 g
Colour	Black
Power supply	2 × 1.5 V AAA, LR03
Scope of delivery	Incl. batteries

Testboy 70

Coating thickness meter

The coating thickness meter, Testboy 70, measures all non-magnetic coatings on steel or iron, such as paintwork, enamel, chrome, copper, zinc, etc. Furthermore, with its special probe, it also enables measurement of all insulating coatings on non-magnetic, metallic surfaces, such as aluminium, copper or brass.

How you benefit

| Large LCD
| Interchangeable probe for measurements on magnetic and non-magnetic metallic surfaces

SPECIFICATIONS

	Testboy 70	
Display	LCD with 4 digits	
Measurement range	0–1000 µm	± 2.5 µm, ± 1–3 %
	0–40 mil	± 1–3 %
Minimum measuring area	Ø 5 mm	
Minimum curvature radius	Fe: Convex 1.5 mm NFe: 3 mm	
Minimum thickness of substrate	Fe: 0.5 mm NFe: 0.3 mm	
Working temperature	0–40°C	
Standard	IEC/EN 61010-1 (DIN VDE 0411)	
Dimensions	158 × 74 × 31 mm	
Weight	220 g	
Colour	Black	
Power supply	4 × 1.5 V AAA, LR03	
Scope of delivery	Incl. batteries, Fe probe, NFe probe and service case	

Testboy 72

Coating thickness meter with combi-probe

Using a combi-probe, the layer thickness tester, Testboy 72, reliably measures all insulated coatings on magnetic and non-magnetic metallic surfaces. Thereby, switching is carried out automatic. The integrated measurement value memory stores the last ten measurement values. The display, the direction of which can be switched, ensures that measurements can also be made under the most difficult conditions.

How you benefit

| Combi-probe for magnetic and non-magnetic metallic surfaces
| Measured value memory
| Direction of the display can be switched

SPECIFICATIONS

	Testboy 72	
Display	LCD with 3 digits	
Measurement range	0–2000 µm 0–80 mil	±2 µm, ±3 %, ±0.1 mil, ±3 %
Minimum measuring area	Ø 7 mm	
Minimum curvature radius	Fe: Convex 1.5 mm NFe: 3 mm	
Minimum thickness of substrate	Fe: 0.7 mm NFe: 0.7 mm	
Measurement value memory	10 values	
Working temperature	0–40 °C	
Standard	IEC/EN 61010-1 (DIN VDE 0411)	
Dimensions	94 × 48 × 24.2 mm	
Weight	72 g	
Colour	Black	
Power supply	1 × 1.5 V AAA, LR03	
Scope of delivery	Incl. batteries and service case	

Testboy 74

Coating thickness tester with LED display

With its clear LED display, the layer thickness tester, Testboy 74, enables quick and easy control of all non-magnetic coatings on steel or iron, such as paints, enamel, chrome, copper, zinc etc. It is particularly suitable for quickly checking vehicles for previous accident damage in car workshops.

How you benefit
| Clear LED display
| Quick, uncomplicated checks

SPECIFICATIONS

	Testboy 74	
Display	Optical via 3 LEDs	
Measuring ranges	0–400 µm	± 15 %
Minimum measuring area	Ø 7 mm	
Minimum thickness of substrate	Fe: 0.8 mm	
Working temperature	0–40 °C	
Dimensions	160 × 33 mm	
Weight	80 g	
Colour	Red	
Power supply	1 × 12 V, type V23	
Scope of delivery	Incl. battery	

Testboy 75

Ultrasonic thickness meter

Using an ultrasonic sensor, the material thickness tester, Testboy 75, accurately determines the thicknesses of the materials steel, aluminium, copper, brass, quartz glass, PVC, zinc, cast iron, polyethylene and grey cast iron. All other materials can also be measured, due to the option of setting the resonance frequency. Thereby, it is suitable for many applications in the car sector, quality assurance and industry.

How you benefit

| Large measurement range
| High accuracy of measurement
| Adjustable resonance frequencies

SPECIFICATIONS

	Testboy 75	
Display	LCD with 4 digits	
Measurement range	1.2 – 200 mm	± 0.5 mm
Resolution	0.1 mm	
Minimum measuring area	Ø 5 mm	
Resonance frequency	500 – 9000 m/s	
Materials	Steel, aluminium, copper, brass, quartz glass, PVC, zinc, cast iron, polyethylene, grey cast iron etc.	
Working temperature	0 – 50 °C	
Standard	IEC/EN 61010-1 (DIN VDE 0411)	
Dimensions	158 × 74 × 31 mm	
Weight	220 g	
Colour	Black	
Power supply	3 × 1.5 V AAA, LR03	
Scope of delivery	Incl. batteries, ultrasonic sensor, glycerine and service case	

Testboy 90

Gas detector

The gas detector, Testboy 90, senses combustible, natural gases, e.g. natural and propane gas. Due to the compact design, it is very suitable for use in confined workspaces, e.g. in the engine compartment or heating systems. The presence of gases is indicated by coloured LEDs and an additional acoustic alarm.

How you benefit
| Optical and acoustic alarm
| Maintenance-free sensor
| Auto power-off

SPECIFICATIONS

	Testboy 90
Display	Optical, via 3 LEDs and acoustic
Auto-Power-Off	After approx. 3 min
Dimensions	218 × 25 × 30 mm
Weight	88 g
Colour	Red
Power supply	2 × 1.5 V AA
Scope of delivery	Incl. operating instructions and batteries

Testboy Car Tester

Voltage tester

The Testboy Car Tester is very suitable for troubleshooting in the car, lorry and all other sectors up to 48 V DC. Four LEDs indicate the voltage and polarity. The integrated piercing probe makes the testing of cables easier.

How you benefit
| Polarity indicator
| Integrated piercing probe

SPECIFICATIONS

	Testboy Car Tester
Display	Optical via 4 LEDs
Measuring range	3–48 V DC
Standard	IEC/EN 61010-1 (DIN VDE 0411)
Dimensions	145 × 25 x16 mm
Weight	120 g
Colour	Red
Power supply	Via measurement object
Scope of delivery	incl. operating instructions

Marketing

Testboy display

| Display for 4 Testboy 313 digital multimeters,
  10 Testboy Profi III LED/LCD or
  21 non-contact voltage testers from 12 V
| Individual arrangement possible

Testboy package

| Display for 21 non-contact voltage testers from 12 V
| Stand-up display
| Individual arrangement possible (e.g. TB 110, 130, 114)

Testboy sales display

| Top technology from Testboy to handle
| Optimum presentation of the devices
| Individual arrangement possible
| Illustrated example:
  2 Testboy Profi III LED, 2 Testboy Profi III LCD,
  1 Testboy 40 Plus, 2 Testboy 20 Plus, 1 Testboy Light 500,
  2 Testboy 3000, 1 Testboy Pocket, 1 Testboy 312,
  1 Testboy TV 216N, 1 Testboy 218, 1 Testboy 26,
  1 Testboy 110, 1 Testboy 113, 1 Testboy TV 325

Testboy accessories

Crocodile clips
Testboy 2200, Testboy 3000, Testboy Pocket, Testboy 20 Plus, Testboy TV 216N, Testboy TV 215N, Testboy TV 460, Testboy TV 470 and Testboy TV 410N, Testboy 313, Testboy 312

GS-38 test tips
Testboy Profi III LED and Testboy Profi III LCD

Removable test tips
Testboy Profi III LED and Testboy Profi III LCD

Adapter for K-Type sensor
Testboy 313

Test lead set CAT III
Testboy 20 Plus, Testboy TV 216N, Testboy TV 215N, Testboy 312, Testboy 313, Testboy 2200, Testboy TV 460 and Testboy TV 470

Test lead set CAT IV
Testboy 3000

K-type probe
Testboy TV 325, Testboy 313

1| TP-K04 penetration probe
Measuring range: -50 – 600°C
Tolerance: ±2.2°C

2| TP-K03 surface probe, straight
Measuring range: -50 – 400°C
Tolerance: ±2.2°C

3| TP-K05 surface probe, curved
Measuring range: -50 – 400°C
Tolerance: ±2.2°C

4| TP-K06 room probe
Measuring range: -50 – 800°C
Tolerance: ±2.2°C

5| TP-K02 immersion probe
Measuring range: -50 – 700°C
Tolerance: ±2.2°C

Cases
Two-pole voltage tester, continuity tester and multimeter

Thermography

Thermal Imagers

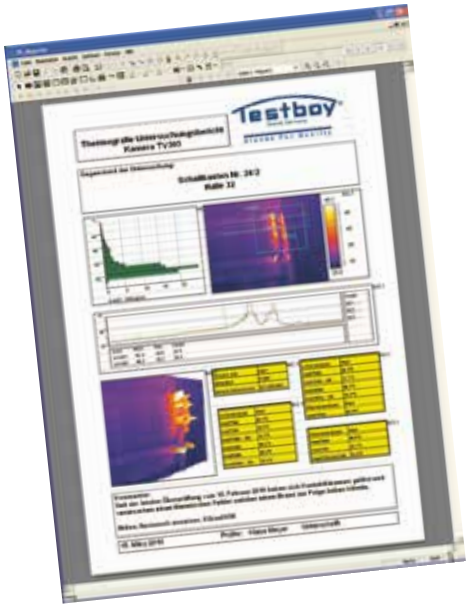
All objects with a temperature greater than absolute zero emit infrared radiation. Infrared radiation cannot be seen by the naked human eye. However, thermal imagers can convert infrared radiation into electric signals and, thus, make them visible.

Because practically each component that absorbs or transmits the energy heats up before it precipitates, infrared thermography represents one of the most effective and reliable technologies for preventive servicing. It is a quick, thorough and safe procedure to identify problems before malfunctions occur.

Whether in industrial plants, switch cabinets, controllers or buildings: Testboy thermal imagers provide powerful options for diagnosis. With their assistance, problems and sources of faults can be prematurely detected and, thereby, for example, production downtimes and fires can be prevented or energy saved.

High-resolution sensors in the Testboy thermal imager provide a detailed image evaluation. This image evaluation can even be carried out on site when using our TV 309, TV 304, TV 294 Digital and TV 295 models.

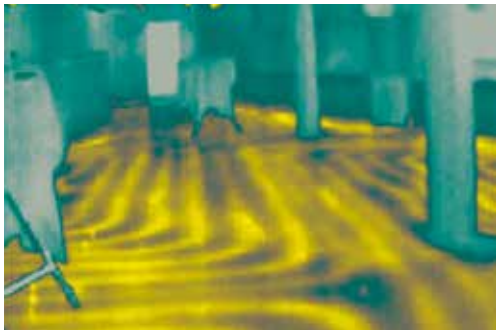
Testboy Reporter Software



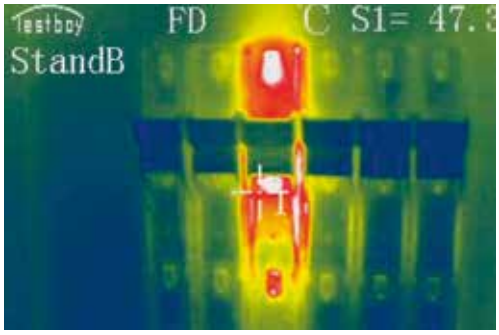
Professional creation of reports on infrared and building inspections

The Testboy Reporter software has been developed by thermal imaging experts and optimised to quickly produce comprehensive and meaningful inspection reports. The look, structure and information content of the report can be saved individually by the user as a template with the required diagrams, text elements and company logo. In addition, the radiometric images – each pixel has a saved value – can be adapted. Thus, for example, measurement points and line profiles can be set or temperature scale or colour palette changed. The evaluations calculated in the report are then automatically adapted.

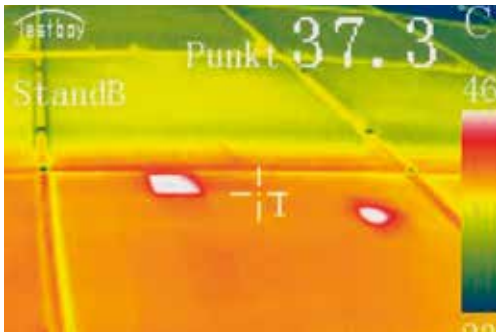
Areas of application



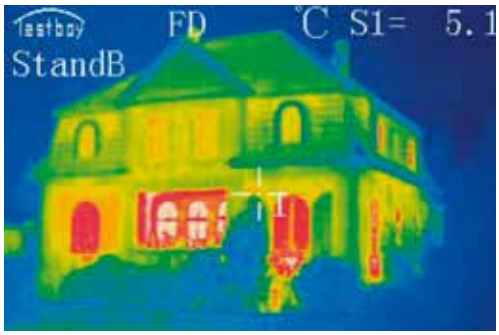
Heating and plumbing
Detection of heat or cold sources, e.g. leak detection in the event of a burst pipe, underfloor heating, panel heating, etc.



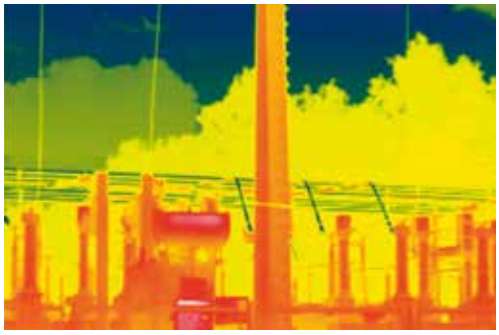
Electrical engineering, electronics
Functional monitoring of individual components, e.g. switching cabinet thermal imaging, cable detection



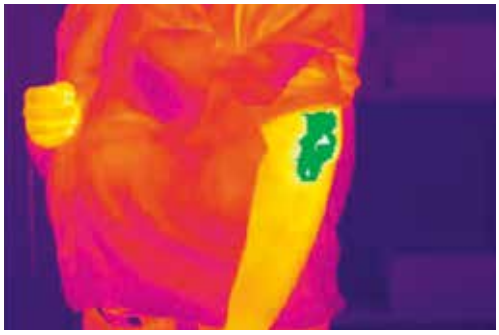
Photovoltaics
Checking installed panels, e.g. hotspot, poor contacts, overheating of the inverter



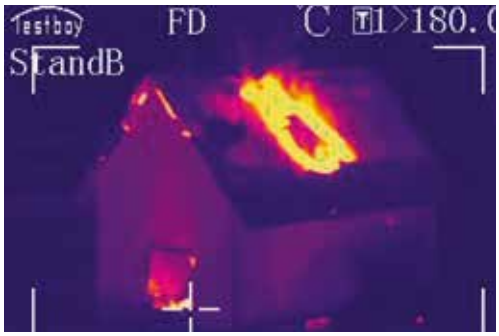
Construction industry, building materials
Building thermal imaging, thermal bridges, checking of insulation, windows, mould, etc.



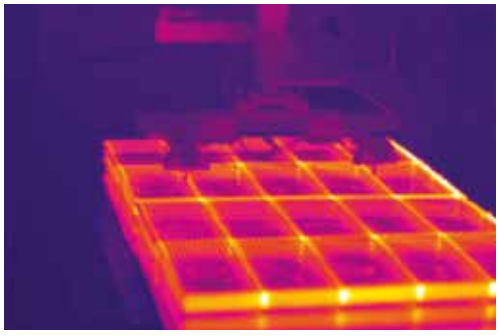
Energy technology, power stations
Process monitoring, non-contact testing of components while the installation is in operation



Medical fields
Human and animal medicine, hidden inflammations, non-contact examination



Fire service
Location of glow nests, person location, gas tank fill levels etc.



Measurement and automation technology, plastics industry, chemical industry, mechanical engineering etc.
Monitoring of production processes, e.g. heat distribution of injection moulds, non-contact testing of components during operation

Testboy TV 294 Digital

Thermal imager

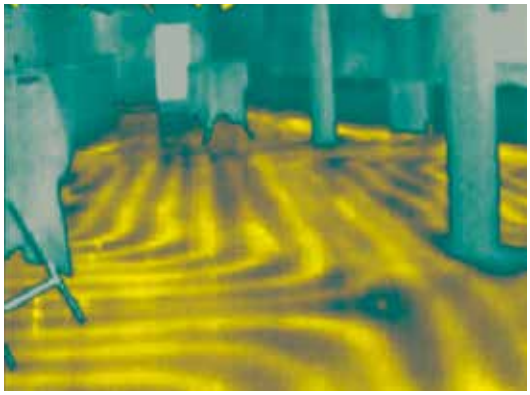
The cost-effective thermal imager, TV 294 Digital, can be universally used and, due to its robust construction, also withstands rough conditions of use. Its 50-Hz technology delivers clear images in real time and also thermographically records fast movements during the process. The comprehensive measuring functions enables an analysis directly on site.

How you benefit

| 50-Hz technology
| Digital camera for image overlay
| Digital panorama view
| Voice recording
| On-site analysis
| Alarm function
| Two sensor resolutions available
| Fall height 2 m
| Testboy Reporter software

Areas of application

| Preventive servicing
| Leak detection and localisation of heating pipes
| Building thermal imaging
| Process monitoring
| Detection of defective panels of PV installations during operation



SPECIFICATIONS

Imaging performance	**TV 294 – 160 Digital**	**TV 294 – 384 Digital**
Sensor type	Focal plane array (FPA), uncooled microbolometer	
Resolution	160 × 120 pixels	384 × 288 pixels
Pixel size | Sensor size	25 µm | 4 × 3 mm	25 µm | 9.6 × 7.2 mm
Spatial resolution (IFOV)	2.73 mrad	1.37 mrad
Temperature resolution (NETD)	≤ 0.08 °C at 30 °C	≤ 0.06 °C at 30 °C
Field of view (FOV) | Min. focus distance	25° × 19° / 0.1 m	
Sensor data capture	50 Hz	
Spectral range	8 – 14 µm	
Focus | Zoom	Manual | 2 × electronic	
Image/display		
LC display	2.7" colour LCD	
Image frequency	50/60 Hz	
CCD camera	1.3 mega pixels	
Presentation	Panorama view	
Measurement characteristics		
Temperature range	-20 – 350 °C	-20 – 600 °C
Accuracy	± 2 °C or ± 2 % (the greater value applies)	
Emissivity correction	Variable from 0.1 to 1.0 (in 0.01 increments)	
Moveable measuring points | Surface areas | Line measurement	4 | 3 | 2	
Surface areas Min-Max temperature | Average value	Yes | Yes	
Isotherm analysis/Temperature differential	Yes | Yes	
Alarm acoustic | optical	Yes | Yes	
Colour palettes	11	
Image settings	Automatic/manual (enhancement and brightness)	
Ambient temperature influence	Automatic correction according to user entry	
Correction of atmospheric radiation	Automatic correction according to user entry	
Other settings	Date, time, temperature unit, language	
Image storage		
Storage medium	MicroSD card 2 GB	
Storage	Automatic/manual single image storage	
Data format	JPEG, with thermal measurement data	
Voice annotations	Up to 60 s per image	
Voltage supply		
Battery mode	Li-Ion battery, operating time up to 3 h per battery, intelligent charger	
External voltage supply	10 – 15 V DC	
Energy-saving function	Automatic power-off, sleep mode adjustable	
Interfaces		
Video output | Audio output	PAL/NTSC | 3.5 mm pawl	
USB	Yes	
Environmental conditions		
Fall height	Up to 2 m	
Operating temperature	-15 – 50 °C	
Humidity	≤ 90 % non-condensing	
Protection class	IP54	
Storage temperature	-25 – 60 °C	
Physical properties		
Dimensions	245 × 105 × 230 mm	
Weight (excl. battery)	1 kg	
Tripod attachment	1/4"-20	
Laser pointer	Class 2, 1 mW / 635 nm (red)	
Equipment		
Scope of delivery	Transportation case, 2 batteries, charger with mains adapter, USB cable, lens cover, SD card, light shield, earphones, audio and video cables, operating instructions, Testboy Reporter software	
Accessories (option)	Car charging adapter, wide-angle lens, telephoto lens	

Testboy TV 295 Touch

Thermal imager

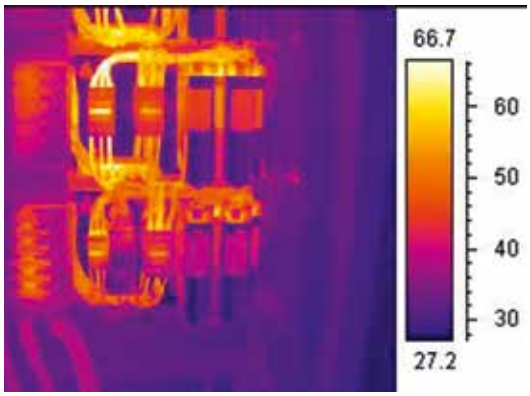
The innovative thermal imager, TV 295 Touch, has a 3.5 inch Touchscreen, LED light and laser pointer. Thereby, it is easy to operate. Nevertheless, it is robust and also survives a drop from a height of two metres undamaged. Due to Bluetooth® and Ethernet interface, it can be variably used and is also suitable for monitoring the process in real time.

How you benefit

| Touchscreen
| Bluetooth
| Ethernet interface
| LED light and laser pointer
| Digital camera for image overlay
| On-site analysis
| Alarm function
| Testboy Reporter software

Areas of application

| Preventive servicing
| Leak detection and localisation of heating pipes
| Building thermal imaging
| Process monitoring in real time
| Research and development
| PCB analysis from a short distance
| Detection of defective panels of PV installations during operation



Bluetooth is a brand of Bluetooth SIG, Inc., Kirkland (Washington), USA.

SPECIFICATIONS

Imaging performance	**TV 295 – 160 Touch**	**TV 295 – 384 Touch**
Sensor type	Focal plane array (FPA), uncooled microbolometer	
Resolution	160 × 120 pixels	384 × 288 pixels
Pixel size | Sensor size	25 µm | 4 × 3 mm	25 µm | 9.6 × 7.2 mm
Spatial resolution (IFOV)	2.73 mrad	1.37 mrad
Temperature resolution (NETD)	≤ 0.08 °C at 30 °C	≤ 0.06 °C at 30 °C
Field of view (FOV) | Min. focus distance	25° × 19° / 0.5 m	
Sensor data capture	50 Hz	
Spectral range	8 – 14 µm	
Focus | Zoom	manual | 2 – 4x electronic	
Image/display		
LC display	3.5" colour LCD (640 × 480 pixels) with touch function	
Image frequency	50/60 Hz	
CCD camera	3 mega pixels (including LED light)	
Presentation	Overlay of IR image and CCD image (fusion), panorama view	
Measurement characteristics		
Temperature range	-20 – 350 °C (option up to +1000 °C)	-20 – 600 °C (option up to +1200 °C)
Accuracy	± 2 °C or ± 2 % (the greater value applies)	
Emissivity correction	Variable from 0.1 to 1.0 (in 0.01 increments)	
Moveable measuring points | Surface areas | Line measurement	5 | 5 | 2	
Surface areas Min-Max temperature | Average value	Yes | Yes	
Isotherm analysis | Temperature differential	Yes | Yes	
Alarm acoustic | optical	Yes | Yes	
Colour palettes	11	
Image settings	Automatic/manual (enhancement and brightness)	
Ambient temperature influence	Automatic correction according to user entry	
Correction of atmospheric radiation	Automatic correction according to user entry	
Other settings	Date, time, temperature unit, language	
Image storage		
Storage medium	MicroSD card 8 GB (max. 32 GB)	
Storage	Automatic/manual single image storage	
Data format	JPEG, with thermal measurement data; H.264 video transfer via network	
Voice annotations	Up to 60 s per image	
Voltage supply		
Battery mode	Li-Ion battery, operating time up to 3 h per battery, intelligent charger	
External voltage supply	10 – 15 V DC	
Energy-saving function	Automatic power-off, sleep mode adjustable	
Interfaces		
Video output | Audio output	PAL/NTSC | 3.5 mm pawl	
USB | Bluetooth | Ethernet	Yes | Yes | Yes	
Environmental conditions		
Fall height	Up to 2 m	
Operating temperature	-15 – 50 °C	
Humidity	≤ 90 % non-condensing	
Protection class	IP54	
Storage temperature	-25 – 60 °C	
Physical properties		
Dimensions	245 × 105 × 230 mm	
Weight (excl. battery)	1 kg	
Tripod attachment	1/4"-20	
Laser pointer	Class 2, 1 mW / 635 nm (red)	
Equipment		
Scope of delivery	Transportation case, 2 batteries, charger with mains adapter, USB cable, lens cover, SD card, light shield, earphones, audio and video cables, operating instructions, Testboy Reporter software	
Accessories (option)	Car charging adapter, wide-angle lens, telephoto lens	

Testboy TV 309

Thermal imager

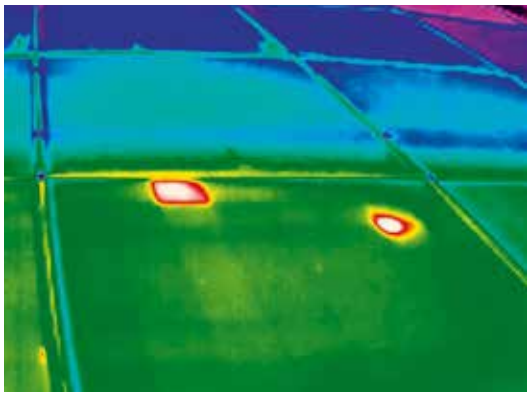
Due to the clear operating panel and menu structure, the handy thermal imager, TV 309, can be easily operated with one hand. Its swivelling display enables recording from every position. Using the wide-angle lens in the scope of delivery, the field of view can be doubled. The innovative image-to-image function with digital panoramic view simplifies the sorting of thermographic images during later evaluation.

How you benefit

| Including additional wide-angle lens
| Swivelling display
| One-handed operation
| Digital camera with panorama view
| 50-Hz technology
| On-site analysis
| Testboy Reporter software

Areas of application

| Preventive servicing
| Leak detection and localisation of heating pipes
| Building thermal imaging
| Process monitoring in real time
| Detection of defective panels of PV installations during operation



SPECIFICATIONS

Imaging performance	**TV 309**
Sensor type	Focal plane array (FPA), uncooled microbolometer
Resolution	160 × 120 pixels
Pixel size | sensor size	25 µm | 4 × 3 mm
Spatial resolution (IFOV)	1.3 mrad
Temperature resolution (NETD)	≤0.1 °C at 30°C
Field of view (FOV) | Min. focus distance	12° × 9° / 0.3 m
Sensor data capture	50 Hz
Spectral range	8–14 µm
Focus | Zoom	Manual | 2 × electronic
Image/display	
LC display	2.8" colour LCD, swivelling
Image frequency	50/60 Hz
CCD camera	300.000 pixels, panoramic view
Measurement characteristics	
Temperature range	-20–350 °C (option up to +600 °C)
Accuracy	± 2 °C or ± 2 % (the greater value applies)
Emissivity correction	Variable from 0.1 to 1.0 (in 0.01 increments)
Moveable measuring points | Surface areas | Line measurement	4 | 3 | 2
Surface areas Min-Max temperature | Average value	Yes | Yes
Isotherm analysis | Temperature differential	Yes | Yes
Alarm acoustic | optical	Yes | Yes
Colour palettes	11
Image settings	Automatic/manual (enhancement and brightness)
Ambient temperature influence	Automatic correction according to user entry
Correction of atmospheric radiation	Automatic correction according to user input
Other settings	Date, time, temperature unit, language
Image storage	
Storage medium	Internal flash memory SD card (1GB) for up to 4000 images
Storage	Automatic/manual single image storage
Data format	JPEG with 14 bit thermal measurement data
Voice annotations	Up to 40 s per image
Power supply	
Battery mode	Li-Ion battery, operating time up to 3 h per battery, intelligent charger
External voltage supply	10–15 V DC
Energy-saving function	Automatic power-off, sleep mode adjustable
Interfaces	
Video output | Audio output	PAL/NTSC | 3.5 mm pawl
USB	Yes
Environmental conditions	
Operating temperature	-15–50 °C
Storage temperature	-25–60 °C
Humidity	≤ 90 % non-condensing
Physical properties	
Housing colour	Silver
Dimensions	197 × 178 × 73 mm
Weight (excl. battery)	700 g
Laser pointer	Class 2, 1mW / 635 nm (red)
Equipment	
Scope of delivery	Transport case, 2 batteries, charger with mains adapter, USB cable, lens cover, wide-angle lens (0.5x), operating instructions, Testboy Reporter software, SD card, earphones, audio and video cable
Accessories (option)	Car charging adapter, telephoto lens

Testboy TV 304

Thermal imager

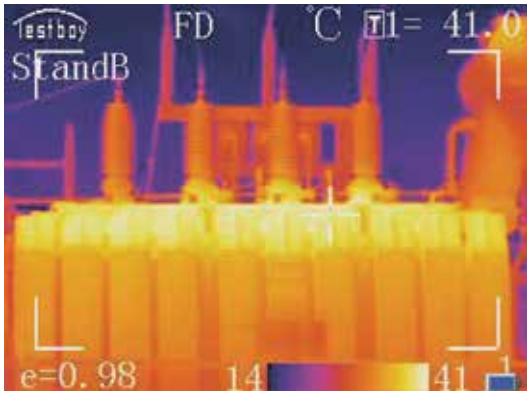
The TV 304 is a high resolution thermal imager for the highest demands. It has full 384 × 288 image points that make small detail in the building shell visible, as well as a thermal sensitivity of ≤ 0.06 degrees Celsius (NETD). The detector data recording of 50 Hertz enables temperature indication of up to 500 degree Celsius in real time.

How you benefit

| High image resolution
| 50-Hz technology
| Compact construction
| Voice recording
| Alarm function
| On-site analysis
| Testboy Reporter software

Areas of application

| Preventive servicing
| Leak detection and localisation of heating pipes
| Building thermal imaging
| Process monitoring in real time
| Research and development
| PCB analysis from a short distance



SPECIFICATIONS

Imaging performance	**TV 304–20**	**TV 304–40**	**TV 304–75**
Sensor type	Focal plane array (FPA), uncooled microbolometer		
Resolution	384 × 288 pixels		
Pixel size | sensor size	35 µm | 13.4 × 10.1 mm		
Spatial resolution (IFOV)	1.75 mrad	0.88 mrad	0.47 mrad
Temperature resolution (NETD)	≤ 0.06 °C at 30 °C	≤ 0.06 °C at 30 °C	≤ 0.06 °C to 30 °C
Field of view (FOV)/min. focus distance	38° × 28° | 0.5m	16° × 12° | 0.5 m	8.6° × 6.4° | 0.5 m
Focal length	20 mm	40 mm	75 mm
Sensor data capture	50 Hz		
Spectral range	8–14 µm		
Focus | Zoom	Manual | 2 × electronic		
Image display			
LC display	2.8" colour LCD		
Image frequency	50/60 Hz		
Measurement characteristics			
Temperature range	-20–350 °C (option up to +600 °C)		
Accuracy	± 2 °C or ± 2 % (the greater value applies)		
Emissivity correction	Variable from 0.1 to 1.0 (in 0.01 increments)		
Moveable measuring points | Surface areas | Line measurement	4 | 3 | 2		
Surface areas Min-Max temperature | Average value	Yes | Yes		
Isotherm analysis | Temperature differential	Yes | Yes		
Alarm acoustic | optical	Yes | Yes		
Colour palettes	11		
Image settings	Automatic/manual (enhancement and brightness)		
Ambient temperature influence	Automatic correction according to user entry		
Correction of atmospheric radiation	Automatic correction according to user input		
Other settings	Date, time, temperature unit, language		
Image storage			
Storage medium	Internal flash memory SD card for up to 4000 images		
Storage	Automatic/manual single image storage		
Data format	JPEG with 14 bit thermal measurement data		
Voice annotations	Up to 40 s per image		
Power supply			
Battery mode	Li-Ion battery, operating time up to 3 h per battery, intelligent charger		
External voltage supply	10–15 V DC		
Energy-saving function	Automatic power-off, sleep mode adjustable		
Interfaces			
Video output | Audio output	PAL/NTSC | 3.5 mm pawl		
USB	Yes		
Environmental conditions			
Operating temperature	-15–50 °C		
Storage temperature	-25–60 °C		
Humidity	≤ 90 % non-condensing		
Physical properties			
Dimensions	310 × 127 × 90 mm		
Weight (excl. battery)	910 g		
Tripod attachment	1/4"-20		
Laser pointer	Class 2, 1 mW / 635 nm (red)		
Equipment			
Scope of delivery	Transportation case, 2 batteries, charger with mains adapter, USB cable, lens cover, SD card, light shield, earphones, audio and video cables, operating instructions, Testboy Reporter software		
Accessories (optional)	Car charging adapter, wide-angle lens		

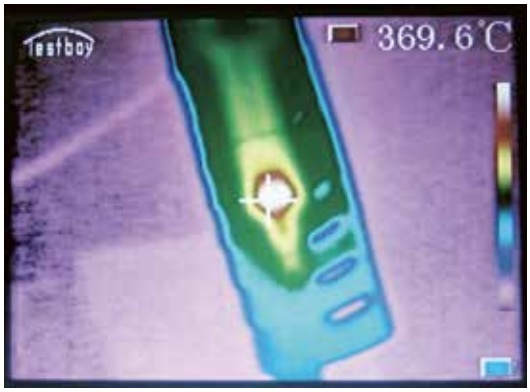
Testboy TV 500 FireChief

Lifesaving camera

The Testboy TV 500 FireChief has been especially developed for hard fire service deployment. The full radiometric camera is ready for operation in less than 20 seconds and ensures a commanding view – also if there is heavy smoke or in the dark. Also if wearing thick protective gloves, it can be easily operated with one hand and is a reliable aid for finding missing persons or other sources of heat.

How you benefit
| One-hand operation for left and right handed persons
| Complies with fire safety standard UL94-V0 with IP67 classification
| Car charging lead included in the scope of delivery

Areas of application
| Fire service deployment
| Accident rescue
| Detection of glow nests
| Searching for missing persons in smoke-filled buildings



SPECIFICATIONS

Imaging performance	**TV 500 FireChief**
Sensor type	Focal plane array (FPA), uncooled microbolometer
Resolution	160 × 120 pixels
Spatial resolution (IFOV)	3.3 mrad
Temperature resolution (NETD)	≤ 0.08°C at 30°C
Field of view (FOV)	30° × 23°
Sensor data capture	50 Hz
Spectral range	8 – 14 µm
Focus	Fixed
Start-up time to image display	≤ 20 s at 30 °C
Image/display	
LC display	3.5" TFT LCD, 260,000 colours, 640 × 480 pixels
Measurement characteristics	
Temperature range	-20 – 600°C
Measurement function	Fixed measuring point
Measurement correction	0.96 fixed emissivity
Colour palettes	6 (firefighting palette, grey, rainbow, etc.)
Voltage supply	
Battery operation	Ni-MH battery, operating time up to 2 h
Charging system	Intelligent charger, charging process ≤ 2 hours, more than 500 charging cycles
Environmental conditions	
Long-term operating temperature	-15 – 50 °C
Short-term operating temperature	50 – 260 °C
Storage temperature	-40 – 70 °C
Protection class	IP67 (watertight up to 1 m)
Flammability rating	UL94-V0
Fall height	1.8 m
Physical properties	
Dimensions	190 × 128 × 273 mm
Weight	≤ 1.3 kg
Equipment	
Scope of delivery	Transport case, 2 batteries, charger, car charging cable, operating instructions

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____ Testboy Profi III LCD

Multimeters
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